

George Kioultzopoulos  
General Motors Corporation  
12200 Lafayette Center Road  
Roanoke, IN 46783-9668

Re: A **003-13594-00036**  
Amendment to PSD (02) 1575

Dear Mr. Kioultzopoulos:

General Motors Corporation was issued a permit on November 30, 1984 for a new light duty truck assembly plant located at 12200 Lafayette Center Road in Roanoke, Indiana 46783-9668. A letter requesting the addition of landfill gas as an alternative fuel to be combusted at Boiler 003 was received on November 11, 2000.

Pursuant to 40 CFR 52, Section 52.21(b)(2)(i) and 326 IAC 2-2-1(o)(2)(D), a major modification is defined as "any physical change or change in the method of operation of a major stationary source that would result in a significant net increase of any pollutant subject to regulation under the act."

Pursuant to the same major modification definition (Section 52.21(b)(2)(iii)(d)), "a physical change or change in method of operation shall not include use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste."

The changes proposed to Boiler 003 are not considered a modification because the proposed alternative fuel is landfill gas. Therefore, the permit shall be amended as follows:

(a) The source description shall be changed as follows:

"A new light duty truck assembly plant, located eight (8) miles southwest of Fort Wayne, Indiana consisting of surface coating operations and two (2) fluidized bed coal-fired boilers, each rated at 201.5 million Btu per hour heat input, and ~~one (1) 240 million Btu per hour heat input, oil/gas-fired boiler~~ **one (1) natural gas/No. 6 fuel oil/ landfill gas fired boiler, identified as 003, with a maximum capacity of 240 MM Btu/hr, using low excess air as control, and exhausting to stack 01.**"

(b) The Pollutant Applicability Summary table found in Section I shall be amended as follows:

Pollutant Applicability Summary  
(Tons Per Year)

|                    | Particulate Matter (PM) | Sulfur Dioxide (SO <sub>2</sub> ) | Volatile Organic Compounds (VOC) | Oxides of Nitrogen (NO <sub>x</sub> ) | Carbon Monoxide (CO) | Lead (Pb) |
|--------------------|-------------------------|-----------------------------------|----------------------------------|---------------------------------------|----------------------|-----------|
| Coal Fired Boilers | 88                      | 2118                              | 6                                | 1059                                  | 391                  | 0.005     |

|  |          |            |       |            |          |      |
|--|----------|------------|-------|------------|----------|------|
| # 6<br>Oil/Gas/<br>Landfill<br>Gas<br>Boiler | 59/16/17 | 1165/0.6/- | 2/1/- | 315/210/70 | 36/40/12 | -/-  |
| Assembly<br>Line                             | 10       | -          | 153   | -          | -        | -    |
| Paint<br>Shop                                | 96       | -          | 2710  | 17         | -        | 0.09 |
| Plant<br>Wide<br>Misc.                       | 10       | -          | 456   | -          | -        | -    |
| Total  | 263      | 3280       | 3327  | 1391       | 431      | 0.1  |
| Significant<br>Level                         | 25       | 40         | 40    | 40         | 100      | 0.6  |

(c) Section I, Part A, Page 2, Boilers, shall be amended to read as follows:

#### Boilers

The boilers will operate up to 24 hours per day, seven (7) days per week, and 52 weeks per year.

Particulate matter emissions from each of the two fluidized bed boilers will be controlled by a fabric filter baghouse. The fabric material will be a coated fiber glass or equivalent. The air-to-cloth ratio will be approximately 2 to 1. The collection technology will result in an emission rate which will not exceed 0.05 lb of PM/MM Btu heat input. This limit is equal to the proposed federal New Source Performance Standard (NSPS) limit for fluidized bed boilers, 40 CFR, Part 60, Subpart Db.

An existing oil/gas-fired boiler, located in another General Motors plant, will be moved to this new truck assembly facility for installation. This relocated oil/gas-fired boiler will primarily use natural gas; thus SO<sub>2</sub> emissions from this boiler are not significant. As a secondary preference, depending on price and availability, a (one percent sulfur content) , **landfill gas, and No. 6 oil** will be used.

All three boilers will be ducted to a common 250-foot high stack in conformance with Good Engineering Practice (GEP), with individual flues for each boiler.

(d) Boiler 003 is subject to 326 IAC 6-2-4, Particulate Matter Emission Limitations for Sources of Indirect Heating: Emission Limitation for Facilities Specified in 326 IAC 6-2-1(d) because Boiler 003 is a source of indirect heating and the Boiler was permitted on November 30, 1984, after the applicable date of September 21, 1983.

Pursuant to 326 IAC 6-2-4 and 326 IAC 6-2-1(d), the PM emissions shall be limited by the following equation:

$$P_t = \frac{1.09}{Q^{0.26}}$$

where:  $P_t$  = pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input.  
 $Q$  = total source maximum operating capacity in MMBtu/hr. The maximum operating capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operating permit shall be used. (643 MMBtu/hr)

Based on the above equation, the PM limit is estimated to be 0.20 lb PM/MMBtu for Boiler 003. Based on the PSD BACT, the PM emissions from Boiler 003 are limited to 0.015 lb/MMBtu when combusting natural gas, and 0.056 lb/MMBtu when combusting No. 6 oil, which are less than the 326 IAC 6-2-4 limit of 0.20 lb/MMBtu.

A PM limitation must be established for the combustion of the proposed landfill gas. Thus, the landfill gas PM emissions shall be limited to the 326 IAC 6-2-4 PM limitation of 0.20 lb/MMBtu with compliance with the 326 IAC 6-2-4 PM limitations for the other fuels combusted being satisfied by meeting the PSD BACT PM limitations.

To incorporate this additional limitation into the existing construction permit, Condition 1(e) of Section IV of the permit shall be amended as follows:

"The PM emissions for the relocated gas/oil boiler will not exceed 0.015 lb/MMBtu when burning natural gas and 0.056 lb/MMBtu when using the secondary preference fuel, No. 6 oil. The PM emissions from natural gas and No. 6 oil are 16 and 59 tons per year, respectively.

**In addition, pursuant to 326 IAC 6-2-4, the PM emissions from boiler 003 shall be limited to 0.20 lb/MMBtu when combusting landfill gas."**

- (e) Boiler 003 is subject to 326 IAC 7-1.1-1, Sulfur Dioxide Emission Limitations, and 326 IAC 7-2, Sulfur Dioxide Compliance: Reporting and Methods to Determine Compliance, because the SO<sub>2</sub> potential to emit from the boiler (1165 tons per year) is greater than the applicable level of 25 tons per year.

Pursuant to 326 IAC 7-1.1-1, the owner or operator shall comply with the limitations of Section 2 of this rule, the compliance test methods in 326 IAC 7-2, and the sulfur dioxide limitations and other requirements pursuant to 326 IAC 2, 326 IAC 7-4, and 326 IAC 12.

Pursuant to 326 IAC 7-1.1-2, SO<sub>2</sub> emissions from Boiler 003 shall not exceed 1.6 lb/MMBtu when combusting No. 6 fuel oil.

Pursuant to 326 IAC 7-2(c), the owner or operator of Boiler 003 shall submit, upon request, reports of calendar month average sulfur content, heat content, fuel consumption, and sulfur dioxide emission rate in pounds per million Btu, based on fuel sampling and analysis data obtained in accordance with the procedures specified under 326 IAC 3-3.

Pursuant to 326 IAC 7-2(d), compliance or noncompliance with the emission limitations of this rule may be determined by a stack test conducted in accordance with 326 IAC 3-6, utilizing the procedures outlined in 40 CFR 60, Appendix A, Method 6, 6A, 6C, or 8.

Pursuant to 326 IAC 7-2(e):

- (a) the fuel sampling and analysis data shall be collected pursuant to the procedures specified in 326 IAC 3-7-2 or 326 IAC 3-7-4. These data may be used to determine compliance or noncompliance with the emission limitations of this rule;
- (b) computation of calculated SO<sub>2</sub> emission rates from fuel sampling and analysis data shall be based on the emission factors contained in U.S. EPA publication AP-42, "Compilation of Air Pollutant Emission Factors" (September 1988), unless other emission factors based on site-specific sulfur dioxide measurements are approved by the Office of Air Quality and the U.S. EPA; and
- (c) the fuel sampling and analysis shall be collected such that compliance or noncompliance is determined using a calendar month average sulfur dioxide emission rate in pounds per million Btus.

Pursuant to 326 IAC 7-2(f), a determination of compliance or noncompliance pursuant to the method specified in (d) or (e) of this rule shall not be refuted by evidence of compliance pursuant to the other method.

To incorporate the 326 IAC 7 requirements into the permit, a new Condition 1(d) shall replace the current Condition 1(d) as follows:

**d. Pursuant to 326 IAC 7:**

- (1) the SO<sub>2</sub> emissions from Boiler 003 shall not exceed 1.6 lb/MMBtu when combusting No. 6 fuel oil.**
- (2) the owner or operator shall submit, upon request, reports of the calendar month average sulfur content, heat content, fuel consumption, and sulfur dioxide emission rate in pounds per million Btu from Boiler 003, based on fuel sampling and analysis data obtained in accordance with the procedures specified under 326 IAC 3-3. Said fuel sampling and analysis data shall be:**
  - (a) used to calculate the SO<sub>2</sub> emission rates by computing said emission rates using the fuel sampling and analysis data and the emission factors contained in U.S. EPA publication AP-42, "Compilation of Air Pollutant Emission Factors" (September 1988), unless other emission factors based on site-specific sulfur dioxide measurements are approved by the Office of Air Quality and the U.S. EPA., and**
  - (b) collected pursuant to the procedures specified in 326 IAC 3-7-2 or 326 IAC 3-7-4 such that compliance or noncompliance is determined using a calendar month average sulfur dioxide emission rate in pounds per million Btu.**
- (3) compliance or noncompliance with the emission limitations of this Condition may be determined by a stack test conducted in accordance with 326 IAC 3-6, utilizing the procedures outlined in 40 CFR 60, Appendix A, Method 6, 6A, 6C, or 8, or the fuel sampling and analysis data collected pursuant to the procedures specified in this Condition.**

**(4) a determination of noncompliance pursuant to one of the methods specified in (3) of this Condition shall not be used to refute a determination of compliance by the other method.**

with Condition 1(d) being redesignated as 1(e). All subsequent Conditions after 1(e) are also redesignated accordingly.

All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this amendment with the original permit.

Sincerely,

Original signed by  
Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Quality

SDF

cc: File - Allen County  
U.S. EPA, Region V  
Allen County Health Department  
Air Compliance Section Inspector- Jennifer Dorn  
Compliance Data Section - Karen Nowak  
Administrative and Development - Janet Mobley  
Technical Support and Modeling - Michele Boner